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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,350	09/13/2005	Yoshiaki Hirose	266983US0XPCT	3014
22850 7590 06/11/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MILLER, DANIEL H	
			ART UNIT	PAPER NUMBER
			1794	
			NOTIFICATION DATE	DELIVERY MODE
			06/11/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/526,350	<b>Applicant(s)</b> HIROSE ET AL.	
	<b>Examiner</b> DANIEL MILLER	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 3/26/2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5-18,20 and 24-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-18, 20, and 24-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/26/2009 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Applicant has dependency to cancelled claim 5. Dependency to a cancelled claim is indefinite since the limitations of the claim can not be readily determined. Correction required. The claim has been provisionally examined as if it depended upon claim 1 below.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Olstowski (US 3,719,608).

7. Olstowski teaches providing an oxidation resistant expanded graphite article wherein oxidation resistance is provided with a solution that can contain a mixture comprising a phosphorous element and a boron element (see column 5 lines 40-55 and claim 1). The phosphorous element and a boron element can be phosphorous oxides and boron oxides as claimed (see column 5 lines 20-25). The particle size of the additives is at least 100 mesh and preferably less than 325 mesh (column 6 lines 35-45) within applicant's claimed range.

8. The graphite is compressed and heat treated to from 800 to 1200 degrees (see column 6 and examples).

9. It is noted that in page 4 of the instant specification, applicant defines a coating layer to include more than a distinct layer. "Forming a coating layer includes forming a so-called coating on a surface of a shaped expanded graphite article, forming the coating on a shaped expanded graphite article and at the same time incorporating (impregnating) a part of the coating into the shaped expanded graphite article, and

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incorporating (impregnating) the coating to a certain depth (including to a core) of the shaped expanded graphite article, all of which are defined as being within the scope of the idea of coating layer.” The solution treated graphite of Olstowski is considered a coated layer as claimed and defined in the specification. No patentable distinction is seen.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, and 6-9, 15-18, 20 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olstowski (US 3,719,608).

3. Olstowski teaches providing an oxidation resistant expanded graphite article wherein oxidation resistance is provided with a solution that can contain a mixture comprising a phosphorous element and a boron element (see column 5 lines 40-55 and

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claim 1). The phosphorous element and a boron element can be phosphorous oxides and boron oxides as claimed (see column 5 lines 20-25). The particle size of the additives is at least 100 mesh and preferably less than 325 mesh (column 6 lines 35-45) within applicant's claimed range.

4. The graphite is compressed and heat treated to from 800 to 1200 degrees (see column 6 and examples).

5. It is noted that in page 4 of the instant specification, applicant defines a coating layer to include more than a distinct layer. "Forming a coating layer includes forming a so-called coating on a surface of a shaped expanded graphite article, forming the coating on a shaped expanded graphite article and at the same time incorporating (impregnating) a part of the coating into the shaped expanded graphite article, and incorporating (impregnating) the coating to a certain depth (including to a core) of the shaped expanded graphite article, all of which are defined as being within the scope of the idea of coating layer." The treated graphite of Olstowski incorporates particles into the graphite article making the entire graphite article part of the coated layer as claimed and defined in the instant specification. Since the graphite material is disclosed as having embodiments greater than 0.5 micrometers (see examples) the coating layer is considered to be greater than 0.5 micrometers as claimed. No patentable distinction is seen.

6. Regarding claim 1, Olstowski (US 3,719,608) teaches all the elements of claim 1 but does not appear to disclose the taught mass percentages of boron and phosphate.

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7. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed percentages of boron (15 mass% or more) and phosphorus (2 mass% or more) including providing a greater concentration of boron than phosphorous by optimizing the oxidation resistant properties of the graphite article with mixture of boron and phosphorous additives. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. No patentable distinction is seen.

9. Olstowski (US 3,719,608) teaches all the elements of claims 15-18, but is silent as to the boron and phosphorus elements being present before expanding the graphite, as required by claim 15.

10. It would have been obvious to one of ordinary skill in the art at the time of the invention to rearrange the steps of Olstowski and provide the additives in the graphite before expanding the graphite flakes with the expectation that no significant change to the properties of final product would be made. See In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious). No patentable distinction is seen.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.
12. The previous rejection has been withdrawn due to amendment of the claims and attorney argument especially with regards to the mass concentration of the boron element.
13. A new rejection over claims 10-18 has been asserted.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MILLER whose telephone number is (571)272-1534. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel Miller

/JENNIFER MCNEIL/

Supervisory Patent Examiner, Art Unit 1794